

**TRANSMITTAL OF INFORMATION DISCLOSURE STATEMENT  
(Under 37 CFR 1.97(b) or 1.97(c))**

Docket No.  
17418
In Re Application Of: **Antonio Ferrante, et al.**

Application No.	Filing Date	Examiner	Customer No.	Group Art Unit	Confirmation No.
10/588,094	July 28, 2006	Unassigned	23389	Unassigned	Unassigned

Title:

**THERAPEUTIC AND CARRIER MOLECULES**

Address to:  
**Commissioner for Patents**  
P.O. Box 1450  
Alexandria, VA 22313-1450

**37 CFR 1.97(b)**

1.  The Information Disclosure Statement submitted herewith is being filed within three months of the filing of a national application other than a continued prosecution application under 37 CFR 1.53(d); within three months of the date of entry of the national stage as set forth in 37 CFR 1.491 in an international application; before the mailing of a first Office Action on the merits, or before the mailing of a first Office Action after the filing of a request for continued examination under 37 CFR 1.114.

**37 CFR 1.97(c)**

2.  The Information Disclosure Statement submitted herewith is being filed after the period specified in 37 CFR 1.97(b), provided that the Information Disclosure Statement is filed before the mailing date of a Final Action under 37 CFR 1.113, a Notice of Allowance under 37 CFR 1.311, or an Action that otherwise closes prosecution in the application, and is accompanied by one of:

the statement specified in 37 CFR 1.97(e);

**OR**

the fee set forth in 37 CFR 1.17(p).

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## **THERAPEUTIC AND CARRIER MOLECULES**

## **Payment of Fee**

**(Only complete if Applicant elects to pay the fee set forth in 37 CFR 1.17(p))**

- A check in the amount of \_\_\_\_\_ is attached.

The Director is hereby authorized to charge and credit Deposit Account No. 19-1013/SSMP as described below.

Charge the amount of \_\_\_\_\_

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Xiaochun Zhu

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Dated: October 30, 2006

Xiaochun Zhu

Registration No. 56-311

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400 Garden City Plaza, Suite 300  
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cc:

**IN THE UNITED STATES PATENT AND TRADEMARK OFFICE**

**Applicants:** Antonio Ferrante, et al.

**Examiner:** Unassigned

**Serial No.:** 10/588,094

**Art Unit:** Unassigned

**Filed:** July 28, 2006

**Docket:** 17418

**For:** THERAPEUTIC AND  
CARRIER MOLECULES

**Dated:** October 30, 2006

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Commissioner for Patents  
P. O. Box 1450  
Alexandria, VA 22313-1450

**INFORMATION DISCLOSURE STATEMENT**

Sir:

In accordance with 37 C.F.R §§1.97 and 1.98, it is requested that the following references, which are also listed on the attached Form PTO-1449, be made of record in the above-identified case.

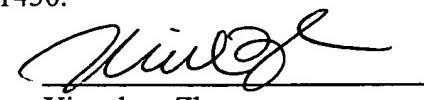
1. PCT International Publication No. WO 96/11908, published April 25, 1996;
2. PCT International Publication No. WO 96/13507, published May 9, 1996;
3. PCT International Publication No. WO 97/38688, published October 23, 1997;
4. PCT International Publication No. WO 01/21172 A1, published March 29, 2001;
5. PCT International Publication No. WO 01/21575 A1, published March 29, 2001;
6. PCT International Publication No. WO 90/08130, published July 26, 1990;

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**CERTIFICATE OF MAILING UNDER 37 C.F.R. §1.8(a)**

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Dated: October 30, 2006

  
Xiaochun Zhu

7. PCT International Publication No. WO 02/094764 A1, published November 28, 2002;
8. PCT International Publication No. WO 03/007876 A2, published January 30, 2003;
9. PCT International Publication No. WO 03/006007 A1, published January 23, 2003;
10. Australian Patent Publication No. 200022459 A1, published October 19, 2000;
11. United States Patent No. 5,151,534, dated September 29, 1992 to Shroot et al.;
12. PCT International Publication No. WO 99/58122, published November 18, 1999;
13. PCT International Publication No. WO 99/58121, published November 18, 1999;
14. PCT International Publication No. WO 99/58123, published November 18, 1999;
15. PCT International Publication No. WO 02/43728 A1, published June 6, 2002;
16. PCT International Publication No. WO 97/03663, published February 6, 1997;
17. European Patent Publication No. 0 345 038, published December 6, 1989;
18. PCT International Publication No. WO 99/58120, published November 18, 1999;
19. Bjorndal B. et al., "Nuclear Import of Factors Involved in Signaling is Inhibited in C3H/10T1/2 Cells Treated With Tetradecylthioacetic Acid", *Journal of Lipid Research* 43:1630-1640 (2002);
20. PCT International Publication No. WO 01/68582 A1, published September 20, 2001;
21. Robinson B.S. et al., "Inhibition of Neutrophil Leukotriene B<sub>4</sub> Production by a Novel Synthetic N-3 Polyunsaturated Fatty Acid Analogue,  $\beta$ -Oxa 21:3n-3<sup>1</sup>", *The Journal of Immunology* 171(9):4773-4779 (2003);

22. Costabile M. et al., "A Novel Long Chain Polyunsaturated Fatty Acid,  $\beta$ -Oxa 21:3n-3, Inhibits T Lymphocyte Proliferation, Cytokine Production, Delayed-Type Hypersensitivity, and Carrageenan-Induced Paw Reaction and Selectively Targets Intracellular Signals", *J. Immunol.* 167(7):3980-3987 (2001);
23. Ferrante A. et al., "Neutrophil Migration Inhibitory Properties of Polyunsaturated Fatty Acids. The Role of Fatty Acid Structure, Metabolism, and Possible Second Messenger Systems", *J. Clin. Invest.* 93:1063-1070 (1994);
24. Forman B.M. et al., "Hypolipidemic Drugs, Polyunsaturated Fatty Acids, and Eicosanoids are Ligands for Peroxisome Proliferator-Activated Receptors  $\alpha$  and  $\delta$ ", *Proc. Natl. Acad. Sci. USA* 94:4312-4317 (1997);
25. Huang Z.H. et al., " $n$ -6 and  $n$ -3 Polyunsaturated Fatty Acids Stimulate Translocation of Protein Kinase  $\text{Ca}$ ,  $-\beta 1$ ,  $-\beta 11$  and  $-\epsilon$  and Enhance Agonist-Induced NADPH Oxidase in Macrophages", *Biochem. J.* 325:553-557 (1997);
26. Novak T.E. et al., "NF- $\kappa$ B Inhibition by  $\omega$ -3 Fatty Acids Modulates LPS-Stimulated Macrophage TNF- $\alpha$  Transcription", *Am. J. Physiol. Lung Cell Mol. Physiol.* 284:L84-L89 (2003);
27. Denys A. et al., "Eicosapentaenoic Acid and Docosahexaenoic Acid Modulate MAP Kinase (ERK1/ERK2) Signaling in Human T Cells", *Journal of Lipid Research* 42:2015-2020 (2001);
28. Narayanan B.A. et al., "Modulation of Inducible Nitric Oxide Synthase and Related Proinflammatory Genes by the Omega-3 Fatty Acid Docosahexaenoic Acid in Human Colon Cancer Cells", *Cancer Research* 63:972-979 (2003);
29. Zeyda M. et al., "Suppression of T Cell Signaling by Polyunsaturated Fatty Acids: Selectivity in Inhibition of Mitogen-Activated Protein Kinase and Nuclear Factor Activation", *The Journal of Immunology* 170:6033-6039 (2003);
30. Ferrante J.V. et al., "Altered Responses of Human Macrophages to Lipopolysaccharide by Hydroperoxy Eicosatetraenoic Acid, Hydroxy Eicosatetraenoic Acid, and Arachidonic Acid. Inhibition of Tumor Necrosis Factor Production", *J. Clin. Invest.* 99(6):1445-1452 (1997);
31. Aukrust P. et al., "Immunomodulating Effects of 3-Thia Fatty Acids in Activated Peripheral Blood Mononuclear Cells", *European Journal of Clinical Investigation* 33(5):426-433 (2003);

32. Huang S.M. et al., "Identification of a New Class of Molecules, the Arachidonyl Amino Acids, and Characterization of One Member that Inhibits Pain", *The Journal of Biological Chemistry* 276(46):42639-42644 (2001);
33. Prusakiewicz J.J. et al., "Selective Oxygenation of N-Arachidonylglycine by Cyclooxygenase-2", *Biochemical and Biophysical Research Communications* 296(3):612-617 (2002);
34. Devadas B. et al., "Substrate Specificity of *Saccharomyces Cerevisiae* Myristoyl-CoA:Protein N-Myristoyltransferase", *The Journal of Biological Chemistry* 267(11):7224-7239 (1992);
35. Trofimov B.A. et al., "Search for Nonsteroidal Anti-Inflammatory Drugs by Using  $\beta$ -Thiopropionic Acid Derivatives", *Khimico-Farmatsevticheskii Zhurnal* 23(12):1463-1465 (1989);
36. Langner C.A. et al., "4-Oxatetradecanoic Acid is Fungicidal for *Cryptococcus Neoformans* and Inhibits Replication of Human Immunodeficiency Virus I", *The Journal of Biological Chemistry* 267(24):17159-17169 (1992); and
37. Kanao S. et al., "Syntheses of Aminoacid Derivatives and Their Biological Activities. I. Anti-Influenza Activity", *Yagukaku Zasshi* 95(4):397-401 (1975).

The references were cited in an International Search Report dated April 15, 2005 received from the Australian Patent Office. Applicants are submitting copies of Reference nos. 1-10 and 12-37. In accordance with the waiver of 37 C.F.R. 1.98 (a)(2)(i) in effect as of June 30, 2003, Applicants are not required to submit a copy of the above cited U.S. Patent reference. Applicants previously submitted a copy of the International Search Report on July 28, 2006. The relevance of the above-identified references has been described in the International Search Report.

Inasmuch as this Information Disclosure Statement is being submitted in accordance with the schedule set out in 37 C.F.R. § 1.97(b), no statement or fee is required.

Respectfully submitted,



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XZ:dg

Form PTO-1449 (REV. 7-80) U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		Atty. Docket No. (Optional)	Application Number
<b>LIST OF PRIOR ART CITED BY APPLICANT</b> <i>(Use several sheets if necessary)</i>		17418	10/588,094
		Applicant(s) Antonio Ferrante, et al.	
		Filing Date July 28, 2006	Group Art Unit Unassigned

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL	REF	DOCUMENT NUMBER	DATE	NAME	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
		5,151,534		Shroot et al.			

**FOREIGN PATENT DOCUMENTS**

	REF	DOCUMENT NUMBER	DATE	COUNTRY	CLASS	SUBCLASS	TRANSLATION
							YES NO
		WO 96/11908	4/25/96	PCT			✓
		WO 96/13507	5/9/96	PCT			✓
		WO 97/38688	10/23/97	PCT			✓
		WO 01/21172 A1	3/29/01	PCT			✓
		WO 01/21575 A1	3/29/01	PCT			✓
		WO 90/08130	7/26/90	PCT			✓
		WO 02/094764 A1	11/28/02	PCT			✓
		WO 03/007876 A2	1/30/03	PCT			✓
		WO 03/006007 A1	1/23/03	PCT			✓
		200022459 A1	10/19/00	Australia			✓
		WO 99/58122	11/18/99	PCT			✓
		WO 99/58121	11/18/99	PCT			✓
		WO 99/58123	11/18/99	PCT			✓
		WO 02/43728 A1	6/6/02	PCT			✓
		WO 97/03663	2/6/97	PCT			✓
		0 345 038	12/6/89	Europe			✓
		WO 99/58120	11/18/99	PCT			✓
		WO 01/68582 A1	9/20/01	PCT			✓

**OTHER DOCUMENTS (Including Author, Title, Date, Pertinent Pages, Etc.)**

	Bjorndal B. et al., "Nuclear Import of Factors Involved in Signaling is Inhibited in C3H/10T1/2 Cells Treated With Tetradecylthioacetic Acid", <i>Journal of Lipid Research</i> 43:1630-1640 (2002)
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\* EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609; draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

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	Costabile M. et al., "A Novel Long Chain Polyunsaturated Fatty Acid, β-Oxa 21:3n-3, Inhibits T Lymphocyte Proliferation, Cytokine Production, Delayed-Type Hypersensitivity, and Carrageenan-Induced Paw Reaction and Selectively Targets Intracellular Signals", <i>J. Immunol.</i> 167(7):3980-3987 (2001)
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	Forman B.M. et al., "Hypolipidemic Drugs, Polyunsaturated Fatty Acids, and Eicosanoids are Ligands for Peroxisome Proliferator-Activated Receptors α and δ", <i>Proc. Natl. Acad. Sci. USA</i> 94:4312-4317 (1997)
	Huang Z.H. et al., "n-6 and n-3 Polyunsaturated Fatty Acids Stimulate Translocation of Protein Kinase Cα, -β1, -β11 and -ε and Enhance Agonist-Induced NADPH Oxidase in Macrophages", <i>Biochem. J.</i> 325:553-557 (1997)
	Novak T.E. et al., "NF-κB Inhibition by ω-3 Fatty Acids Modulates LPS-Stimulated Macrophage TNF-α Transcription", <i>Am. J. Physiol. Lung Cell Mol. Physiol.</i> 284:L84-L89 (2003)
	Denys A. et al., "Eicosapentaenoic Acid and Docosahexaenoic Acid Modulate MAP Kinase (ERK1/ERK2) Signaling in Human T Cells", <i>Journal of Lipid Research</i> 42:2015-2020 (2001)
	Narayanan B.A. et al., "Modulation of Inducible Nitric Oxide Synthase and Related Proinflammatory Genes by the Omega-3 Fatty Acid Docosahexaenoic Acid in Human Colon Cancer Cells", <i>Cancer Research</i> 63:972-979 (2003)

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		Ferrante J.V. et al., "Altered Responses of Human Macrophages to Lipopolysaccharide by Hydroperoxy Eicosatetraenoic Acid, Hydroxy Eicosatetraenoic Acid, and Arachidonic Acid. Inhibition of Tumor Necrosis Factor Production", <i>J. Clin. Invest.</i> 99(6):1445-1452 (1997)	
		Aukrust P. et al., "Immunomodulating Effects of 3-Thia Fatty Acids in Activated Peripheral Blood Mononuclear Cells", <i>European Journal of Clinical Investigation</i> 33(5):426-433 (2003)	
		Huang S.M. et al., "Identification of a New Class of Molecules, the Arachidonyl Amino Acids, and Characterization of One Member that Inhibits Pain", <i>The Journal of Biological Chemistry</i> 276(46):42639-42644 (2001)	
		Prusakiewicz J.J. et al., "Selective Oxygenation of N-Arachidonylglycine by Cyclooxygenase-2", <i>Biochemical and Biophysical Research Communications</i> 296(3):612-617 (2002)	
		Devadas B. et al., "Substrate Specificity of <i>Saccharomyces Cerevisiae</i> Myristoyl-CoA:Protein N-Myristoyltransferase", <i>The Journal of Biological Chemistry</i> 267(11):7224-7239 (1992)	
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		Langner C.A. et al., "4-Oxatetradecanoic Acid is Fungicidal for <i>Cryptococcus Neoformans</i> and Inhibits Replication of Human Immunodeficiency Virus I", <i>The Journal of Biological Chemistry</i> 267(24):17159-17169 (1992)	
		Kanao S. et al., "Syntheses of Aminoacid Derivatives and Their Biological Activities. I. Anti-Influenza Activity", <i>Yagakukan Zasshi</i> 95(4):397-401 (1975)	
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